

TITLE OF THE INVENTION

[0001] Game Equipment Support Structure

CROSS-REFERENCE TO RELATED APPLICATIONS

[0002] This application claims benefit of U.S. Provisional Patent Application 60/441,041,
5 "Integrated system for mounting and playing various games", filed January 17, 2003.

BACKGROUND OF THE INVENTION

[0003] The present invention relates generally to games which include elevated game equipment, for example a darts game board or a basketball rim, and more particularly to structures used to support such elevated equipment.

10 [0004] Games including elevated equipment, such as dart boards and basketball rims, are well known in the art. Such game equipment is typically rigidly mounted to walls or other fixed structures, either directly or through members which connect the game equipment to the fixed structure. A need exists for a game equipment support structure which is portable, easily assembled and disassembled, adjustable in height and capable of supporting equipment

15 associated with different types of games.

BRIEF SUMMARY OF THE INVENTION

[0005] Briefly, the invention is a game equipment support structure comprising a base defining a support plane and a pole support, a first end of the pole support being releasably connectable to the base. The support structure further comprises a panel having at least a first

20 major planar surface, the panel further having a support fitting fixedly attached thereto. A second end of the pole support is releasably connectable to the support fitting. The game equipment support structure is readily configurable between first and second panel configurations. In the first panel configuration the pole support is formed by at least one pole member. The first end of the pole support has a first longitudinal axis and the second end of the

25 pole support has a second longitudinal axis generally perpendicular to the first longitudinal axis, such that when the support fitting is connected to the pole support, the first major planar surface of the panel is generally perpendicular to the support plane. Also in the first panel configuration, the first major planar surface of the panel includes a detachable game apparatus. In the second panel configuration, the pole support is formed by a single pole member having a

single longitudinal axis, such that when the support fitting is connected to the pole support, the first major planar surface of the panel is generally parallel to the support plane to form a table.

[0006] In another aspect, the invention is a game equipment support structure comprising a base defining a support plane and a pole support, a first end of the pole support being
5 releaseably connectable to the base. The support structure further comprises a panel having at least a first major planar surface, the panel further having a support fitting fixedly attached thereto. A second end of the pole support is releasably connectable to the support fitting. The game equipment support structure is readily configurable between first and second panel configurations. In the first panel configuration the pole support is formed by at least one pole
10 member. The first end of the pole support has a first longitudinal axis and the second end of the pole support has a second longitudinal axis generally perpendicular to the first longitudinal axis, such that when the support fitting is connected to the pole support, the first major planar surface of the panel is oriented generally perpendicular to the support plane. Also in the first panel configuration, the first major planar surface of the panel includes a detachable game
15 apparatus. In the second panel configuration, the pole support is formed by a single pole member. The single pole member has a first end with a first longitudinal axis and a second end of the single pole member has a second longitudinal axis parallel to the first longitudinal axis. When the support fitting is connected to the pole support, the first major planar surface of the panel is generally parallel to the support plane to form a table.

20 BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0007] The following detailed description of a preferred embodiment of the invention will be better understood when read in conjunction with the appended drawings. For the purpose of illustrating the invention, there is shown in the drawings an embodiment which is presently preferred. It should be understood, however, that the invention is not limited to the precise
25 arrangements and instrumentalities shown.

[0008] In the drawings:

[0009] Fig. 1 is a front perspective view of an assembled game equipment support structure in accordance with a preferred embodiment of the present invention, having a panel shown in a first panel configuration and a pole assembly shown in a first pole configuration, the support
30 structure supporting a dart board game apparatus;

- [0010] Fig. 2 is a front perspective view of the support structure of Fig. 1, shown in the first panel configuration and a second pole configuration, supporting a basketball goal assembly game apparatus;
- [0011] Fig. 3 a front perspective view of the support structure of Fig. 1, shown in a second panel configuration and a third pole configuration, to form a first table;
- 5 [0012] Fig. 4 a front perspective view of the support structure of Fig. 1, shown in the second panel configuration and a fourth pole configuration, to form a second table;
- [0013] Fig. 5 is a side elevation view of the support structure of Fig. 1, shown in the first panel configuration and first pole configuration;
- 10 [0014] Fig. 6 is a plan view of pole members which, in various combinations, form the pole configurations of Figs. 1-4; and
- [0015] Fig. 7 is a plan view of base and panel components of the support structure of Fig. 1.

DETAILED DESCRIPTION OF THE INVENTION

- [0016] Certain terminology is used in the following description for convenience only and is not limiting. The words "right", "left", "top", and "bottom" designate directions in the drawings to which reference is made. The words "interior" and "exterior" refer to directions toward and away from, respectively, the geometric center of the game equipment support structure and designated parts thereof. The terminology includes the words above specifically mentioned, derivatives thereof and words of similar import.
- 15 [0017] Referring to the drawings, wherein like referenced numerals are used to designate the same components throughout the figures, there is shown in Figs. 1-7 in accordance with a preferred embodiment of the present invention, a game equipment support structure 10. The support structure 10 is shown to comprise a base 20, a pole support 30, a panel 80 and a game apparatus 100 detachably mounted to the panel 80. The base 20 is shown to form a support
- 20 plane 24 on which the base 20 rests generally horizontally in normal operation.
- [0018] With reference to Figs. 1-4, the pole support 30 is shown in first, second, third and fourth pole configurations 30a-30d, respectively. In the first pole configuration, the pole support 30 is assembled from first, second and third pole members 40, 50 and 60, respectively. In the second pole configuration, the pole support 30 is formed by second and third pole
- 25 members 50 and 60. In the third pole configuration, the pole support 30 is formed by second pole member 50 only. And in the fourth pole configuration 30d, the pole support 30 is formed by first pole member 40 only.

[0019] Figs. 1 and 2 show the support structure 10 having the panel 80 mounted in a first panel configuration 12, wherein the panel 80 is oriented generally vertically to form an elevated game apparatus support. Figs. 3 and 4 show the panel 80 mounted in a generally horizontal second panel configuration 14, to form a table.

5 **[0020]** With particular reference to Figs. 5 and 7, the base 20 is shaped generally as a square disk, and is a hollow shell filled with an inexpensive, dense material such as sand. Other fill materials, such as water, could be substituted. If a liquid were to be used as the fill material, the base 20 would further include internal baffles (not shown) to limit sloshing of the liquid when the base 20 is moved. The shell is preferably fabricated from a polymeric material, but
10 other materials such as metal could be substituted. The base 20 could alternatively be solid. The base 20 is further provided with a central hole 22 (see Fig. 7) sized to releasably receive a first end 32 of the pole support 30.

[0021] With particular reference to Figs. 5 and 6, the pole support 30 includes, in various combinations for the various pole configurations 30a-30d, the first segment 40, the second pole
15 member 50 and the third pole member 60. The first pole member 40 has first and second parallel, offset ends 42, 44 connected by a middle portion 46 which is angled relative to the first and second ends 42, 44. The second pole member 50 is generally straight and has a first straight end 52 and a second straight end 54. The third pole member 60 has a first angled end 62 which is bent at an angle relative to an elongated middle portion 66. The third pole member
20 60 has a second radiused end 64 which is curved such that a central longitudinal axis 64a extending from an end face 70 of the second end 64 makes an angle of approximately 90 degrees with a central longitudinal axis 62a of the first end 62.

[0022] When the pole support 30 is assembled in the first pole configuration 30a, the first offset end 42 fits within the hole 22 in the base 20. The first straight end 52 has a diameter
25 slightly less than the diameter of the second offset end 44, allowing the first straight end 52 to be inserted within the second offset end 44. A fastener 48, for example a set screw, disposed in the second offset end 44 may be tightened against the second pole member 50 to secure the second pole member 50 to the first pole member 40. Similarly, the first angled end 62 has a diameter which is slightly larger than a diameter of the second straight end 54, allowing the
30 second straight end 54 to be inserted within the first angled end 62. A fastener 68, for example a set screw, disposed in the first angled end 62 may be tightened against the second pole member 50 to secure the second pole member 50 to the third pole member 60.

[0023] The pole members 40, 50 and 60 are preferably fabricated from metal tubing using fabrication techniques well known in the art. Alternatively, other materials such as polymeric materials or wood could be substituted. Likewise, from this disclosure the artisan would recognize that the pole members 40, 50 and 60 could be assembled together using a variety of techniques other than the male and female end portions secured together with set screws, for example male and female end portions secured together by an interference fit or threaded sleeve clamp connections.

[0024] With particular reference to Figs. 1 and 5, in the first pole configuration 30a, where the pole support is formed by the first, second and third pole members 40, 50 and 60, the first end 32 of the pole support 30 has a first longitudinal axis 32a and a second end 34 of the pole support has a second longitudinal axis 34a generally perpendicular to the first longitudinal axis 32a. In the first pole configuration 30a, the pole support 30 further has an offset portion intermediate the first and second ends 32 and 34, whereby a center of gravity of the panel 80 is generally aligned with a center of gravity of the base 20.

[0025] Similarly, as illustrated in Figs. 2 and 6, in the second pole configuration 30b, where the pole support 30 is formed by second and third pole members 50 and 60, the pole support first longitudinal axis 32a corresponds to second pole member longitudinal axis 50a and third pole member first longitudinal axis 62a. The pole support second longitudinal axis 34a corresponds to third pole member second longitudinal axis 64a. As the third pole member first and second longitudinal axes 62a and 64a are generally perpendicular, so too the first and second pole support longitudinal axes 32a and 34a are also generally perpendicular.

[0026] With reference now to Figs. 3 and 6, in the third pole configuration 30c, where the pole support 30 is formed by second pole member 50, the pole support 30 has a single longitudinal axis corresponding to second pole member longitudinal axis 50a.

[0027] As shown in Figs. 4 and 6, in the fourth pole configuration 30d, the pole support 30 is formed by first pole member 40. The first pole member 40 has first end 42 with a first longitudinal axis 42a, corresponding to pole support first longitudinal axis 32a, and second end 44 with a second longitudinal axis 44a parallel to the first pole member first longitudinal axis 42a, corresponding to the pole support second longitudinal axis 34a. Thus in the fourth pole configuration 30d, the pole support longitudinal axis 32a is parallel to the second pole support longitudinal axis 32b.

[0028] From this disclosure, the artisan would further recognize that the pole support 30 could be fabricated as a single member of uniform length or as a first pole member which moves telescopically within a second pole member.

[0029] The panel 80 is preferably a generally square board-like member with a first major planar surface 82 and a second major planar surface 84. A support fitting 88 is disposed on the second major planar surface 84. The support fitting 88 includes a flat mounting plate 90 from which a circular cylinder portion 92 extends away from the second major planar surface 84. The second radiused end 64 of the third pole member 60 is of a slightly smaller diameter than the cylindrical portion 92, and may be inserted within the cylindrical portion 92. A fastener (not clearly shown), preferably a set screw, is disposed in the cylindrical portion 92 and may be tightened against the radiused end 64 to secure the panel 80 to the pole support 30.

[0030] The panel 80 is preferably fabricated from wood, although other materials including polymeric materials and metal could be substituted. From this disclosure, the artisan would recognize that the panel 80 could be assembled to the pole support 30 using a variety of techniques, including an interference fit between mating male and female portions or a threaded sleeve clamp.

[0031] In use, the support structure 10 is readily reconfigurable between the first and second panel configurations 12 and 14 and the first through fourth pole support configurations 30a-30d. With reference now again to Fig. 1, the support structure 10 is shown in the first panel configuration 12, and in the first pole configuration 30a, where the longitudinal axis 32a is generally perpendicular to the second longitudinal axis 34a, such that when the support fitting 88 is connected to the pole support 30, the first major planar surface 82 of the panel 80 is generally perpendicular to the support plane 24. Also, Fig. 1 illustrates the game apparatus 100 being a dart board 102. The game apparatuses 100 are readily detachable from the panel 80 using techniques well-known to those of ordinary skill in the art. For example, support bolts could be installed in the panel 80 and the game apparatus 100 hung from the support bolts, the support bolts being held secure with wing nuts. Other techniques for detachably mounting the game apparatuses exist, for example a sliding tongue and groove type connection.

[0032] With reference now to Fig. 2, the support structure 10 is shown in the first panel configuration 12 and in the second pole configuration 30b. As in the first pole configuration 30a, the longitudinal axis 32a is generally perpendicular to the second longitudinal axis 34a, such that when the support fitting 88 is connected to the pole support 30, the first major planar

surface 82 of the panel 80 is generally perpendicular to the support plane 24. The game apparatus 100 is shown to be the basketball goal assembly 104. Fig. 2 illustrates that height of the support structure 10 may be adjusted by changing between the first and second pole configurations 30a and 30b.

5 **[0033]** With reference now to Fig. 3, the support structure 10 is shown in the second panel configuration 14, and in the third pole configuration 30c. In the third pole configuration 30c, the pole support 30 has a single longitudinal axis corresponding to longitudinal axis 50a, such that when the support fitting 88 is connected to the pole support 30, the first major planar surface 82 of the panel 80 is generally parallel to the support plane 24 to form a first table. Fig.
10 3 further illustrates the game apparatus 100 removed from the first major planar surface 82. In the second panel configuration 14, the support structure 10 is well-suited for use with table games such as checkers, chess, Chinese checkers or backgammon.

15 **[0034]** With reference now to Fig. 4, the support structure 10 is shown in the second panel configuration 14 and in the fourth pole configuration 30d. In the fourth pole configuration 30d, the longitudinal axis 32a is offset from and generally parallel to the second longitudinal axis 34a, such that when the support fitting 88 is connected to the pole support 30, the first major planar surface 82 of the panel 80 is generally parallel to the support plane 24 to form a second table, the top panel 80 of which is offset from the base 20.

20 **[0035]** From the foregoing it can be seen that the present invention comprises a support structure which can be used to support game equipment associated with different types of games. The support structure is easily assembled and disassembled, portable and adjustable in height. The present invention is exceedingly versatile in that it can be a table for normal use and yet be easily and readily converted to a backboard for a variety of games including darts and basketball. As such, it is an ideal device for use by youths in dorm rooms or other areas
25 where space is limited. It will be appreciated by those of ordinary skill in the art that modifications may be made to the above described embodiment without departing from the scope and spirit of the present invention.